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THE DOMINANCE OF RHYTHM IN ORGANIC NATURE AND AS A THERAPEUTIC FACTOR.

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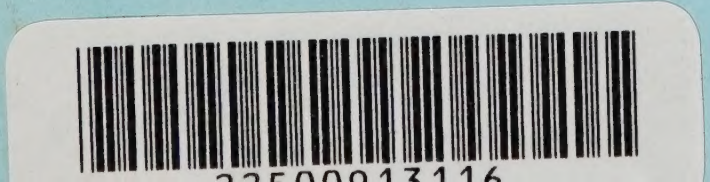
VALLIAN



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THE DOMINANCE OF RHYTHM IN ORGANIC NATURE AND AS A THERAPEUTIC FACTOR.*

BY SAMUEL S. WALLIAN, A. M., M. D., NEW YORK.

Rhythm is the underlying law of the universe.

All that we know of creation may be described as an infinite association of immeasurable cycles.

All things that exist are in perpetual motion, and without exception every cosmic motion eventuates in cycles.

The planetary system, which we ambitiously try to identify as *our* system, with its central sun, its space-annihilating family of planets, and their several retinues of satellites, its encircling rings and milky ways, its flaming and only seemingly eccentric comets and myriads of scintillating stars, conforms in every remotest and minutest particular with the universal model. All its individual bodies are spheres, and all spheres are essentially solidified cycles. They all revolve in rhythmic perpetuity, and every revolving body moves in cycles.

The cycle is therefore a microcosm and epitome of all that is.

The Latin name of the year is first cousin to the word *annulus*, a ring. The ecliptic is merely a slightly distorted, and the earth's orbit a somewhat flattened circle. Day and night alternate and complete the diurnal cycle. The ocean tides rhythmically punctuate the periodic if only apparent return of the sun and moon.

The dial on which we measure the lapse of time is a circle, the pointers or indices of which regularly and rhythmically meet and pass and meet again. The minutes and hours are made up of cycles of sixty, which will go on rhythmically repeating themselves to the last syllable of recorded time, forever reeling off yesterdays that are but memories of completed cycles.

To this law there can be no exceptions; hence human life is a rounded cycle. Can this fact be cited as a mathematical proof that it, too, is by necessity without end? To entertain the argument of the myopic materialists would certainly necessitate the existence of semicycles and dismembered hemispheres,

* Read before the American Electro-Therapeutic Association at Philadelphia, September 19, 1906.

which are creative, moral, physical, and psychic impossibilities.

If it be objected that these postulates are transcendental dreams, unwarranted by scientific deduction and the material facts, let it be quite as plausibly urged that all our material facts—so named in sheer ignorance—are equally dreamy, when analyzed to a finality, since they are merely accidental and transitory manifestations of certain intercorpuscular vibrations which can neither be seen nor scientifically explained.

Venturing further definitions, *Life* is essentially an incessant succession of vibratory impulses, and this constitutes rhythmic reiteration.

Health is the harmonic and uninterrupted play of the vivified organ, without jar or undue friction.

Disease is vital friction, or the opening of a discordant stop.

Death is the cessation of vibrant impulse. It closes the lids of the organ.

Fate is the architect of the organ.

The music of the spheres is as real and demonstrable as any problem in mathematics.

The morning stars are not poetic fabrications from the land of myth. They have been singing together without lull or intermission since the primal dawn.

Music is vibrant harmony. Psychically it is love struggling for a language.

Love,—a much neglected and almost unrecognized therapeutic factor,—is music that has found its alphabet.

Hate is the jangling of discordant or interrupted vibrations.

If this underlying principle of rhythm, which so dominates and predominates throughout every process, habit, and manifestation of the natural world could by any means be abrogated the entire curriculum of science would have to be rewritten; the undermined foundations of science herself would have to be reconstructed.

In corroboration, the undulatory theory of matter and force, of the evolution of heat, light, and motion, the established law of the conservation of the physical forces,—all these are based on pulsating waves, alternating oscillations, action and reaction, flow and reflow; and all these processes and results consist of vibratory motion, of rapidly recurring, and therefore rhythmic reiterations.

It is now conceded that every motion and change of condi-

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tion, whether mechanical, chemical, or vital, originates, advances, and culminates in vibration.

We receive all our knowledge, whether perceptional or sensational, physical, physiological, or psychic, by means of sensitive media acted upon by vibratory impulses.

Plato held that the history of the race has ever been and ever will be a history of epochal repetitions.

The pendulum is a fragmentary exemplar of all motion, and the pendulum describes the arc of a circle. It measures and remeasures the extent of its arc, pausing at each extremity, before yielding to its inevitable law of limitation, thus exemplifying the balanced law of work and rest, of inspiration and expiration, of systole and diastole, stimulation and inhibition,—these inherent attributes of motion which are universally balanced, reciprocal, and compensatory, and which forever maintain a perfect and indestructible equipoise.

Every sound, in its ultimate analysis, is composed of an infinite and imperceptible succession of silences.

The earth and the oceans pulsate unceasingly and in rhythmic unison. Earth tremors, volcanic belchings, geysers, cyclones, simooms, tornadoes, and tidal waves are by no means meteorologic or seismic accidents. They are indispensable in the periodic attuning of the cosmic diapason.

Nature tolerates no accidents. Everything that happens was preordained from the very aurora of creative dawn. An accident would constitute a miracle, and a miracle would unhinge the universe.

Rhythm is the foundation and *sine qua non* of music, and music is a resultant of motion obeying the law of vibratory repetition. Rhythm and music are the psychic Siamese twins whose intercommunicating bond can never be severed.

All sounds resolve themselves into music when sufficiently attenuated, when heard at a sufficient distance, and when blended with a sufficient number of other sounds. The discordant braying of the disconsolate donkey, the bellowing of the batrachian basso profundo, perched upon his floating lily-pad, in the margin of the lake, and the hoarsest croaking of that evil-omened bird that once drove the iron of despair deep into the shuddering soul of the one American poet who adequately realized and marvelously commanded the magic power

of rhythm,—all these are music to listening and responsive souls.

Vibration may thus be defined as the voice of Nature, without which she would be as dumb as Despair, as silent as the impassive Sphinx, a helpless mass of immaterial matter, with no attributes of either cohesion or persistency.

Physiology and pathology sprout from the same stem. One is functional harmony, the other functional discord or functional friction. Therefore when we essay to change pathologic into physiologic action we are attempting to re-establish lost rhythm in a disturbed or arhythmic organism.

In prosecuting this combat of art against accident we have heretofore appealed principally to the chemist and pharmacist to provide us the means. In these later days we are slowly, questioningly, but surely learning to invoke the more direct forces of Nature, and to realize that these direct agencies are ultimates, while most of our old weapons were less reliable, and less satisfactory, because, for the most part, they are either transients, tentatives, substitutes, or mere palliatives.

Furthermore, in the final rounding up and sequel of science we will no doubt discover that these various forces, now recognized by so many names, can readily be reduced to a very few, if not quite to unity. Perhaps, in time, we will be content to designate all of them by the one comprehensive term, *creative energy*.

We conceitedly make our multiform but superficial subdivisions, and talk pedantically about photogenic waves, thermodynamics, massotherapy, kinesitherapy, electro-therapy, and a dozen other modalities of energy; but all these are readily reducible to the one central, underlying, and fundamental force that dominates the universe. All the countless and varying manifestations of it are merely incidental details.

The curriculum of the medical schools will be slowly and hesitantly adjusted to the new conditions and later revelations. Already the ponderous tomes on the materia medica of the past are beginning to be neglected, and are gathering dust on the shelves of the medical bibliothecarians; and when the alert modern physician, impatient of the limitations, and incredulous as to the strict legitimacy of his old-time armamentarium, is cornered and compelled to prescribe from the old uncertain list, he essays to shirk the responsibility, in a measure, by reverting

to some one of the thousand ready-made pharmaceuticals and proprietary plausibilities. Thus he temporizes, and perhaps gains time for further investigation as to which one of the newer and rhythmically remedial modalities he will finally invoke as a source of radical and permanent help.

A few years ago, for such exhibitions of embryo heresy, reputable practitioners would have been stigmatized as therapeutic nihilists, and disciplined in the societies. To-day we are all accorded *carte blanche* to pursue whatever special lines, means, and remedial agencies appeal to our clearer judgments and awakened consciences.

The most important of the newer fields of investigation has been illogically and inaptly dubbed "mechanotherapy."

In the crudest sense of things the word may be called materially descriptive; but it is entirely too material. It ignores the more subtle but equally important psychic element. It practically eliminates neurons, nerve function, and vital energy. It makes the human organism a mere machine.

The term *rhythmotherapy* is not thus restricted. It is sufficiently comprehensive. It permits psychic latitude, without sacrificing scientific accuracy. It enables us to take into account, under one legitimate heading, all the modalities, modifications, and manifestations of phototherapy, electrotherapy, radiotherapy, and every other form of so-called mechanotherapy. The adoption of this word will simplify terms, contribute another needed item toward technical accuracy, and prevent linguistic confusion.

By infinitely subdividing it we have legislated the old-time atom out of existence. We call these infinite subdivisions electrons or corpuscles. Until quite recently the hydrogen atom was recognized as the unit of elemental individuality, the extreme of material ponderability. Now, our material metaphysicians estimate,—albeit they cannot hope to absolutely demonstrate,—that 800 or 1000 electrons could find accommodation within the spherical envelope of a hydrogen atom, or would be required to balance the scale against the former atomic unit.

These electrons are presumed—perhaps proven—to exist only in incessant motion, their velocity being incomputable by any standard yet devised. That this immeasurable velocity is vibratory and therefore rhythmic, is quite as evident as the as-

sumed fact that the electrons exist. To prove the latter renders proof of the former superfluous. It is the ionization, interpulsation, vibration—rhythmic motion—of electrons that materializes in the forms that we designate as force and matter. The kind of force and the variety of matter are determined by the respective rate or velocity of the undulatory, vibratory, rhythmic impulses. At one rate it becomes manifest as red light. At various higher rates it merges into all the infinite shadings of the solar spectrum, eventuating in the ultra violet. Becquerel and Roentgen rays, or into rays whose wave-lengths are so infinitely short that the resultant shadings are invisible and can be only hypothetically estimated. Thus what we call matter is a resultant of electrons in incomputably rapid vibrant motion.

The unit of organic structure is the cell. It originates in vibratory,—rhythmic motion. It is developed and nourished by the two conditions, a proper medium, and the requisite impulse velocity. A certain velocity begets a tree, another a trilobite, still another a theologian. One rate develops a saurian, a higher one a simian, a still higher one a senator. One eventuates in gold, silver, or zinc. Another in methyl blue, mahogany, or mercury. Thus we may dispense with the necessity for a "missing link."

Unquestionably all our exploited electrical currents are strictly rhythmic in character. If it be objected that the continuous current is non-vibratory and therefore non-rhythmic this objection falls before the admitted fact that all currents are excited by chemic-ionic action, and all chemic action takes the form of intermolecular or intercorpuscular vibration. Again, the continuous current evolves both light and heat, neither of which can be evolved except through some form of vibratory energy.

The physicists have quite agreed that ionization is the sole origin and source of all processes, whether physical, physiologic, or chemic; and ionization is unquestionably motion, incessant motion, rapid, recurrent, and therefore rhythmic motion.

In an admirable paper delivered before this Society at its last annual session, our eminent but absent Professor Herdman* said:

* Since dead.

"According to this view all our therapeutic agents resolve themselves into attempts to bring about the proper adjustment of ions endowed with their normal energy for effecting suitable combinations." He further adds, "All departures from normal processes of assimilation, nutrition, and growth, resulting in perverted function and pathologic products, are defects in the proper ionization processes."

All these evolved facts and more than plausible hypotheses clearly suggest, if they do not positively prove, that the countless forms of certainly natural, even when artificially evolved, excited, or more properly, diverted energy will ere long be reckoned among our most rational, safe, and efficient—possibly our only—means of restoring defective, debilitated, or dormant functions, and of destroying pathologic products, by simply and naturally re-establishing normal and physiologically perfect ionization within the tissues.

That over-enthusiasts and careless or indiscreet and ignorant experimenters have failed and will continue to fail with the x-ray, high-frequency currents, static modalities, and mechanical vibratory manipulations is not to be accepted as competent evidence against the remedial potency of any of these rational measures, when intelligently invoked. The enterprising practitioner will study deeper into the nature and possibilities of these newer modalities of an art which is yet in the swaddling-clothes age of its ultimate growth.

To this growth it is the privilege as well as duty of each one of us to contribute, each in his own, but never over-confident way, some helpful hints and individual observations and deductions that may have escaped the ken of more astute, and mayhap more technical and scientific colleagues.

The field of rhythmotherapy, regardless of the special means, or methods by which we work, is as wide as the universe, and every by-path and main highway of it is open to us all.